



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,526	04/22/2004	Jun Okazaki	088485-0242	7376
23392 7590 02/08/2007 FOLEY & LARDNER 2029 CENTURY PARK EAST SUITE 3500 LOS ANGELES, CA 90067			EXAMINER SHEDRICK, CHARLES TERRELL	
			ART UNIT	PAPER NUMBER
			2617	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/08/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/829,526

Applicant(s)

OKAZAKI, JUN

Examiner

Charles Shedrick

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Communication device and Method for transmitting using Selective transmission modes.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al., US Patent

Pub. No.: 2004/0125778 A1, hereinafter, 'Lin'

Consider claims 1, 7, and 12, Lin teaches a communication device, Method, and a Computer readable recording medium that records a program comprising: a selection unit which selects one of a relay protocol designed to transmit the communication data to a receiving-side communication device via a control station (i.e., see paragraph 0009, 0023, and paragraph 0035) and a direct protocol designed to directly transmit the communication data to the receiving-side communication device (e.g., see paragraph 0009, 0022, and paragraph 0035)

Art Unit: 2617

in accordance with a condition that defines a state wherein a total communication bandwidth used to transmit the communication data does not exceed an allowable communication bandwidth and is used to switch a protocol between the relay and direct protocols(i.e., high efficiency transmission mode)(see at least paragraph 0011; discussion of figures 5 and 6, paragraph 0035), and an interface unit which transmits the communication data in accordance with the protocol selected by the selection unit (i.e., IEEE 802.11X interface as described in conjunction with the system description of paragraph 0035).

Consider **claims 2, 8, and 13, and as applied to claims 1,7, and 12**, Lin teaches the claimed invention further comprising: a unit which detects real-time data to be transmitted to the receiving-side communication device (i.e., see at least paragraph 0035), and wherein the selection unit selects the relay protocol when the real-time data is not detected (i.e., see at least paragraph 0035), and selects the direct protocol when the real-time data is detected (i.e., if a higher bandwidth is needed the transmission mode can automatically be switched to Ad-hoc as described in at least paragraph 0035)

Consider **claims 3,9, and 14, and as applied to claims 1,7, and 12**, Lin teaches the claimed invention further comprising: a unit which acquires a communication bandwidth of the communication data (i.e., see paragraphs 0007,0009,and 0035); a unit which calculates a total communication bandwidth required upon transmitting the communication data in accordance with the relay protocol on the basis of the communication bandwidth of the communication data (i.e., see paragraphs 0007,0009,and 0035); and a unit which determines whether or not the total communication bandwidth satisfies a condition that defines a state in which the total communication bandwidth exceeds an allowable communication bandwidth of a network used to

Art Unit: 2617

transmit the communication data(i.e., see paragraphs 0007,0009,and 0035), and wherein the selection unit selects the relay protocol when the condition is not satisfied, and selects the direct protocol when the condition is satisfied(i.e., see paragraphs 0007,0009,and 0035)(in this particular instance since the transmission is automatically switched the units with the stations must determine when and why to switch the connectivity and the decision to switch is based on the available bandwidth needed for a quality streaming media connection as discussed in the specified paragraphs).

Consider **claims 4,10, and 15** and as applied to **claims 1, 7, and 12**, Lin teaches the claimed invention further comprising: a unit which acquires a communication bandwidth of the communication data (i.e., see paragraphs 0007,0009,and 0035); a first acquisition unit which acquires an allowable communication bandwidth to the control station based on the relay protocol (i.e., see paragraphs 0007,0009,and 0035); a second acquisition unit which acquires an allowable communication bandwidth from the control station to the receiving-side communication device based on the relay protocol(i.e., see paragraphs 0007,0009,and 0035)(the receiving side bandwidth is included in the total bandwidth requirement); and a unit which determines whether or not the communication bandwidth of the communication data satisfies a first condition that defines a state in which the communication bandwidth exceeds the allowable communication bandwidth to the control station(i.e., see paragraphs 0007,0009,and 0035)(i.e., the system can distinguish between the bandwidth needed for real-time communication and the bandwidth needed for non-real time service) , and whether or not the communication bandwidth of the communication data satisfies a second condition that defines a state in which the communication bandwidth exceeds the allowable communication bandwidth from the control

Art Unit: 2617

station to the receiving-side communication device(i.e., see paragraphs 0007,0009,and 0035), and wherein the selection unit selects the relay unit when neither of the first and second conditions are satisfied(i.e., see paragraphs 0007,0009,and 0035), and selects the direct protocol when at least one of the first and second conditions is satisfied(i.e., see paragraphs 0007,0009,and 0035)(in this particular instance the bandwidth of the interface and the overall link is known and the bandwidths required to transmit real-time data vs. non-real time can be distinguished in order to automatically switch the communications modes as discussed by Lin).

Consider **claims 5,11, and 16 and as applied to claims 1, 7, and 12**, Lin teaches the claimed invention further comprising: a unit which acquires a communication bandwidth of the communication data (i.e., see paragraphs 0007,0009,and 0035); a unit which acquires an allowable communication bandwidth based on the direct protocol (i.e., see paragraphs 0007,0009,and 0035); and a unit which determines whether or not the communication bandwidth of the communication data satisfies a condition that defines a state in which the communication bandwidth exceeds the allowable communication bandwidth based on the direct protocol(i.e., see paragraphs 0007,0009,and 0035), and wherein the selection unit selects the direct protocol when the condition is not satisfied, and selects the relay protocol when the condition is satisfied(i.e., see paragraphs 0007,0009,and 0035)(i.e., see above discussion regarding communication links and bandwidth).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al., US Patent Pub. No.: 2004/0125778 A1, hereinafter, 'Lin', in view of Stine US Patent Pub. No.: 2003/0033394 A1.

Consider claim 6 and as applied to claim 1, Lin teaches the claimed invention except a unit which reserves a communication bandwidth required to transmit the communication data in accordance with the relay protocol, and cancels the reserved communication bandwidth and reserves a communication bandwidth required to transmit the communication data in accordance with the direct protocol when the selection unit selects the direct protocol, and wherein the interface unit transmits the communication data using the reserved communication bandwidth.

Art Unit: 2617

However, In analogous art Stine teaches a unit which reserves a communication bandwidth required to transmit the communication data in accordance with the relay protocol (i.e., see paragraph 0005, 0047, and 0296), and cancels the reserved communication bandwidth and reserves a communication bandwidth required to transmit the communication data in accordance with the direct protocol when the selection unit selects the direct protocol (i.e., see at least claim 11), and wherein the interface unit transmits the communication data using the reserved communication bandwidth(i.e., see paragraph 0005, 0047, and 0296)(in this instance the reservation are based on link quality in Ad-Hoc and infrastructure mode. The combination of where the reservations are applicable with access points are discussed in at least beginning with paragraph 0332 in conjunction with figures 37-39).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Lin to include the invention of Stein for the purpose of providing an improved quality of service.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Giaimo et al. US Patent Pub. No.: 2004/0090924 A1

Reddy et al. US Patent Pub. No.: 2004/0127214 A1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621.

The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

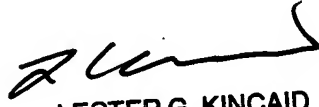


Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Shedrick  
AU 2617  
January 26, 2007

  
LESTER G. KINCAID  
SUPERVISORY PRIMARY EXAMINER